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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,344	03/09/2004	Yuichiro Ohta	2803.70023	1978
<div>7590 10/10/2007</div> <div>Partick G. Burns, Esq. GREER, BURNS & CRAIN, LTD. Suite 2500 300 South Wacker Dr. Chicago, IL 60606</div>				
			EXAMINER LUND, JEFFRIE ROBERT	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 10/10/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/796,344	Applicant(s) OHTA, YUICHIRO	
	Examiner Jeffrie R. Lund	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-19 is/are pending in the application.
4a) Of the above claim(s) 18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 18 and 19 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The original claims are directed to a coupling member which connects the vacuum pump to the floor member panel so as to prevent shrinkage of the flexible pipe. Claims 18 and 19 are directed to strengthening the flexible pipe by adding a layer of rubber or resin material. Thus, the inventions are distinct from the original invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 18 and 19 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03. If claim 1 is found allowable, claims 18 and 19 will be rejoined and allowed also.

Drawings

2. The drawings were received on April 12, 2007 and July 20, 2007. These drawings are approved. The drawing filed April 12, 2007 was held to be non-compliant. This was done in error. The Examiner did not see the term "Replacement Sheet" on the drawing. The Examiner apologizes for any inconvenience this may have caused.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 8, 10, and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicants Admitted Prior Art (AAPA) in view of Sweeny US Patent 1,559,804.

The AAPA discloses vacuum bonding chambers 16 for bonding liquid crystal display devices that include vacuum pumps 18 attached to the bonding chamber 16 by a flexible bellows-like pipe 36. The vacuum bonding chamber and vacuum pump are mounted on a floor panel 50 with a gap between the vacuum pump and the floor panel via a base frame and fittings, and includes a cushion member between the vacuum pump and the floor panel. (Page 2 lines 20-33, Figure 8)

The disclosed prior art does not teach a mechanism, specifically, a coupling bar attached to the vacuum pumps near the flexible pipe and the floor panel to reduce the shrinking of the flexible pipe.

Sweeny teaches a mount for supporting a flexible hose that prevents damage to vacuum inlet pipe (i.e. elbow 11 and hose coupling 27) caused by tensile forces acting on the vacuum, the vacuum includes: a flexible pipe 16 attached to the vacuum by the vacuum inlet pipe (i.e. elbow 11 and hose coupling 27), coupling members (i.e. support rods 18, 18', 22, 24) connected between the vacuum inlet pipe (i.e. elbow 11 and hose coupling 27) and a floor panel (i.e. truck 23) in a direction in which the flexible pipe extends, and opposite the vacuum. (See figures 1 and 1a).

The motivation for supporting the vacuum inlet pipe is to keep all the components

in place and to prevent damage from forces placed on the vacuum inlet pipe so that the vacuum inlet pipe will function as required and not be damaged in use as taught by Sweeny. Furthermore, it has been held that it is obvious to apply a known technique to a known device ready for improvement to yield predictable results (see *KSR International Co. v. Teleflex Inc.*) In this case, it would have been obvious to use coupling members of Sweeny that prevent movement of the vacuum inlet pipe due to tensile forces applied to the vacuum inlet, in the known vacuum inlet of a vacuum bonding chamber which are moving as a result of tensile forces applied by the collapse of the flexible pipeline, to yield the predictable result of stopping or preventing the movement of the vacuum inlet pipe of the known vacuum bonding apparatus.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to support the vacuum inlet pipes in the apparatus of the AAPA to prevent movement and damage caused by forces applied to the vacuum inlet pipe as taught by Sweeny.

5. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and Sweeny as applied to claims 1-8, and 10 above, and further in view of Elliotte, US Patent 2,663,894.

AAPA and Sweeny differ from the present invention in that they do not teach that the coupling member is a chain with a fixing block.

Elliotte teaches supporting the flexible hose 59 with sturdy beams 62 and chains 106 attached to fixing blocks 105 (see figure 1). It is also well known in the art that a load can be supported with a chain in tension.

The motivation for replacing a ridged rod of AAPA and Sweeny with a chain and fixing block as taught by Elliotte is to provide an alternate method of supporting a load. Furthermore, it has been held that the simple substitution of one known element for another to obtain predictable results is obvious (see *KSR International Co. v. Teleflex Inc.*). In this case, it would have been obvious to replace the rod of AAPA and Sweeny that supports a tensile load with a chain and block of Elliotte that is also well known to support a tensile load.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to support the vacuum inlet pipes in the apparatus of the AAPA and Sweeny using a chain and fixing block as taught by Elliotte.

Response to Arguments

6. Applicant's arguments filed April 20, 2007 have been fully considered but they are not persuasive.

In regard to the argument that neither the apparatus of Sweeny nor Elliotte teach the limitation "so as to prevent shrinkage of said flexible pipe at the time of evacuation", the Examiner agrees. However, Sweeny and Elliotte clearly teach preventing the vacuum inlet from moving due to tensile forces applied to the vacuum inlet; and the limitation "so as to prevent shrinkage of said flexible pipe at the time of evacuation" is an intended use of the apparatus and the combination of the AAPA, Sweeny and Elliotte would result in an apparatus that prevents "shrinkage of said flexible pipe at the time of evacuation". Furthermore, it has been held that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of

references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (10:00 am - 9:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-

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273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrie R. Lund
Primary Examiner
Art Unit 1763

JRL
10/4/07